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The Origins of Heterosexist Attitudes Among Young Children

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The Origins of Heterosexist Attitudes Among Young Children

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Abstract

The Origins of Heterosexist Attitudes Among Young Children

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Stereotyping and prejudice on the basis of sexual orientation are common among adolescents and adults. Although empirical data on the topic are lacking, theoretical work indicates that such biases are likely to emerge in childhood. Children attend to gender and the distribution of genders into roles—including familial roles—by three years of age. Furthermore, young children's limited cognitive skills, and a reliance on the inherence heuristic, lead to especially strong endorsement of many forms of stereotypes and prejudices. The primary goal of this thesis was to test theoretically derived hypotheses concerning the emergence of, and age-related changes in, children's heterosexist views of relationships across early and middle childhood. As part of this goal, I created a reliable, valid, and practical measure of heterosexist attitudes for use with 5- to 10-year-old children. Children viewed 12 advertisements that portray diverse types of human relationships, including both same- and cross-sex couples and families, and answered questions concerning their interpretation and liking of each image. Children also

completed measures of their gender stereotyping and the inherence heuristic. Participants included 72 racially diverse children from a large city in the southwest United States. Results indicated that children were much more accurate at interpreting cross-sex than same-sex romantic relationships, and girls were better at this interpretation than boys were. Children's attitudes varied as a function of whether they had accurately or inaccurately labeled the same-sex pairs; those who incorrectly interpreted the same-sex couples as heterosexual had no difference in attitudes, but the children who correctly identified the same-sex romantic pairs showed more positive attitudes towards the cross-sex than the same-sex romantic pairs. There was an interaction of participant gender and image gender for children's attitudes; children preferred the images that matched their own gender. There were no effects of gender stereotyping on children's attitudes or interpretation. Children who interpreted the same-sex romantic pairs correctly had high levels of inherence heuristic adherence. The study was successful in creating an original measure for assessing heterosexist attitudes in young children, and this opens up many promising venues for research on the development of heterosexist attitudes in young children.

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Chapter 1: Introduction and Literature Review

In February 2008, two days before Valentine's Day, 15-year-old Larry King was shot and killed during class in his school's computer lab (Gould, 2011). As *Time* magazine reported, days before the shooting, King had asked Brandon McInerney, his 14-year-old classmate, to be his Valentine. McInerney's response to this request was to shoot and kill his admirer. King had come out as gay at 10 years of age, and had been the target of bullying from his classmates ever since. During the trial, the defense lawyers blamed the shooting on the school administrators, and expressed belief that King's effeminate behavior and appearance should have been prevented by school administrators because this behavior pushed his classmate to a breaking point that ended in murder.

Although the King case is extreme, physical and mental abuse of lesbian, gay, bisexual, transgender, and queer (LGBTQ) youth is common (GLSEN, 2011). Indeed, research suggests that U. S. school climates are typically characterized by heterosexism, as is the wider society in which schools are embedded. Walls (2008) defined heterosexism as "an ideological system that denies, denigrates, stigmatizes or segregates, any nonheterosexual form of behavior, identity, relationship or community." It has also been defined as "including the institutions, practices, and norms that support heterosexuality and subjugate other forms of sexuality, especially homosexuality" (Martin, 2009). Although research exists exploring heterosexist attitudes in adults, no research has examined the developmental trajectory of heterosexism among children. There are, however, strong theoretical bases for expecting heterosexist attitudes among elementary school-age children, which are described in detail below.

The primary goal of the proposed study was to examine the origins of heterosexism among children. Because measures of the construct for use with elementary-school-age children do not exist, I developed a measure of heterosexist views of relationships appropriate for use with 5- to 10-year-olds and examined age-related changes in responding. In addition, I examined several hypothesized individual difference predictors of children's attitudes, including endorsement of gender stereotypes and reliance on the inherence heuristic (Cimpian & Salomon, 2014).

This paper begins with a review of several literatures related to heterosexism and the related topics of children's gender attitudes and understanding of sexuality. I next describe several theoretical mechanisms hypothesized to produce heterosexist views among elementary school-age children and describe the methodology used here to test the operation of these mechanisms. Finally, I describe the study's findings and their implications for theoretical models of children's understanding of same- and cross-sex romantic relationships and interventions aimed at reducing stereotyping and prejudice toward sexual minorities.

Adults' Attitudes Toward LGBT Individuals

In the last two decades, there have been positive changes in attitudes towards LGBT people, as Americans have become more supportive of gay and lesbian civil rights (Adam, 1995; Loftus, 2001). Public support of gay marriage is at an all-time high in the U.S., with 58% percent of Americans stating that it should be legal, according to a *Washington Post-ABC* poll in March 2013. According to a recent Pew Research Center Poll, 60% of Americans believe homosexuality should be accepted. Although this

number is higher than it's ever been in the U.S. and is evidence of the dramatic changes that have characterized Americans' attitudes in recent years (in 2007, only 49% responded this way), this percentage is still much lower than in many other countries, including Canada, Spain, and Britain (80%, 88%, and 76% report acceptance of homosexuality, respectively); (Pew Research, 2013). Furthermore, many Americans continue to believe that being gay is immoral (Loftus 2001) and even more believe that homosexuality is unacceptable (Pew Report, 2013). Furthermore, LGBT individuals experience hate crimes and harassment at higher rates than other social groups (Adam, 1995). In 2011, the FBI reported its highest number of LGBT related murders ever (FBI, 2011) and 63.5% of LGBT students reported feeling unsafe in school because of their sexual orientation or gender expression in a recent GLSEN poll (Kosciw et al, 2011).

Although statistics show a slow positive shift in attitudes towards LGBT people, studies indicate that many people still express negative emotions and reactions to same-sex behavior and LGBT expression. For example, Holland, Matthews and Schott (2013) found negative attitudes toward the LGBT population among college students. More negative attitudes were found among men than women, those individuals with stronger than weaker religious affiliations, and students early in their college careers.

In addition to self-reported attitudes, studies have documented negative behavior toward LGBT individuals. Hebl, Foster, Mannix, and Dovidio (2002) conducted a field study in which confederates visited a store in a large Texas mall and applied for jobs. The applicants wore one of two hats: one said "Texan and proud," whereas the other said "Gay and proud." The applicants were blind to the hat that they were wearing. Results

indicated that employers spent less time interacting, used more negative verbalizations, and used fewer words in their interactions when interacting with an applicant wearing a "Gay and proud" hat than when interacting with an applicant wearing a "Texan and proud" hat.

Using yet another methodological approach, Hegarty, Pratto, and Lemieux (2004) explored heterocentric norms by asking participants to imagine various social situations. In one situation, a straight, married man brought his gay, partnered friend to a bar frequented by straight men and women who were looking for romantic partners. In the other situation, the gay friend brought his straight friend to a similar bar, but in this case, the bar was full of gay men and women who were looking for romantic partners. In both scenarios, the friend became angry upon arriving at the bar because he was in a committed relationship. Participants then rated the degree to which the friend's anger was justified. Results indicated that the participants rated the straight individual's frustration as more valid than that of the gay individual. The gay bar was seen as more threatening than the straight bar, although the situations were otherwise identical.

Heterosexist and homophobic attitudes are also apparent in studies that compare views of various stigmatized groups. Herek (2002) found that straight participants rated bisexual men and women, lesbians, and gay men less favorably than nearly any other stigmatized group members, including members of various races, religions, and ideological groups (e.g., those who are "pro-life" group members). Only intravenous drug users were rated less favorably than LGB individuals using a "positive feelings thermometer."

Other studies have explored the link between negative attitudes towards LGBT people and perceived sexual interest. Pirlott and Neiberg (2013) argued that the threat of perceived unwanted sexual interest (whether or not it actually exists) mediates sexual prejudice. Consistent with this hypothesis, the authors reported that individuals perceived especially high levels of unwanted sexual interest on the part of members of those groups toward which they felt most negatively. So, for example, heterosexual women expressed strong prejudices toward bisexual and gay women and, simultaneously, perceived members of these groups as directing unwanted sexual interest towards their own group. Heterosexual men, in contrast, perceived unwanted sexual interest from bisexual and gay men, the two groups toward which they felt most negatively. In a similar vein, many recent studies have shown a link between homophobia in men and sexual attraction. Research has shown that those men who show high levels of homophobia also show high arousal rates to gay male pornography (Weinstein et al, 2012; Adams, Wright & Wright, 1996). These findings support the idea that—in some cases—sexual prejudice and homophobia may serve a protective function for those individuals who are gay, but unwilling to accept it.

Gender and Attitudes Toward LGBT Individuals

As might be expected given the centrality of gender to issues of orientation, men and women differ in their views of LGBT individuals, and, at the group level, individuals differ in their views of male versus female individuals who engage in same-sex romantic relationships (Baker & Fishbein, 1998; Horn, 2006; Marsiglio, 1993; Morrison et al., 1993; Poteat & Anderson, 2012; Price, 1987; Van de Ven, 1994). Much research

indicates that adults view women's deviation from traditional feminine gender roles more favorably than men's deviation from traditional masculine gender roles. According to such theorists (Horn, 2006; Schope & Eliason, 2004), this gender asymmetry developed as a result of the patriarchal structure of society. Women who deviate from feminine roles are rewarded for being more masculine because the masculine role is more highly valued. In contrast, men who act in a more feminine fashion are seen as threats to social order because they threaten to expose male dominance as artificial and contrived (rather than innate and legitimate). Irrespective of the cause of the asymmetry, two types of gender differences in attitudes toward LGBT individuals among adults are often reported. First, levels of LGBT stereotyping and prejudice differ by the gender of the target; attitudes toward gays are more stereotypic and negative than attitudes towards lesbians (Schope & Eliason, 2004). Second, men show higher levels of LGBT stereotyping and prejudice than women.

Attitudes Towards Lesbians Although women are more comfortable in defying typical gender roles than men, most women are still very uncomfortable with the idea of mistakenly being labeled a lesbian (Schope & Eliason, 2004). Straight women who are most concerned with maintaining traditional gender roles are less tolerant of lesbians, whereas women who are more masculine are more tolerant (Schope & Eliason, 2004). In the case of women, prejudice towards lesbians is due less to a perceived threat to a straight women's own sexual identity, and more from a sense of disgust and fear of non-heterosexual women (Schope & Eliason, 2004).

Straight men's attitudes towards lesbians are slightly different than women's attitudes. Most straight men are influenced by typical gender roles and assume that lesbian couples must have a feminine and a masculine partner (Schope & Eliason, 2004). However, they view this structure as less acceptable than couples with two masculine or two feminine women, perhaps because it is a greater threat to the typical heterosexual structure.

Attitudes Toward Gays Schope and Eliason (2004) conducted a study of college students' views of gender role behaviors and homophobic attitudes. College students were presented with various vignettes. Some vignettes described gay men or lesbians who were gender typical, whereas other vignettes described gender atypical (e.g., stereotypically "gay-acting") gay men and lesbians. After each vignette was presented, participants were asked questions about their comfort with the individual and how they would behave in certain situations with this person (e.g., if this person was their roommate). Results indicated that, at the group level, straight men were more prejudiced towards gay men than were straight women. Furthermore, straight men did not vary in their acceptance of gay men as a function of their adherence to traditional masculine gender norms. That is, heterosexual men were equally biased against more and less masculine gay men.

Youths' Attitudes Toward LGBT Individuals

Relative to what is known about adults' attitudes toward LGBT individuals, little is known about heterosexist attitudes among youth. Those studies that exist focus on older adolescents, typically high school and college students. Early research found

inconsistent patterns of sexual prejudice across age. One of the few studies that included middle school aged children found an increase in sexual prejudice between middle school and high school. Baker and Fishbein (1998) studied sexual prejudice in 7th, 9th, and 11th graders. For all grades, they found higher levels of prejudice among male than female students. This gender difference was greater in attitudes towards gay men than lesbians. Sexual prejudice increased between 7th and 9th grade. Among females, prejudice then decreased between 9th and 11th grade. Among males, in contrast, prejudice increased between these grades. This study also examined associations among sexual prejudice and various personality traits, including self-esteem, locus of control, and creativity. Results indicated no statistically significant associations among these variables and sexual prejudice.

In studies with older children, a slightly different developmental pattern emerges. Morrison et al. (1993) studied adolescents in grades 10 and 12 and found little longitudinal change in their negative attitudes towards homosexuality. Although neither males nor females showed attitudinal change across age, there was a gender difference in attitudes towards gays and lesbians, with males being more likely than females to hold negative attitudes. Additionally, students with higher self-reported academic achievement showed less negative attitudes towards gays and lesbians. No similar association was found for levels of religiosity or hometown (rural vs. urban). Price (1987) also found little change in adolescents' attitudes, but reported that males had more negative attitudes than females. Marsiglio (1993) found that the vast majority of males (ages 15 - to 19-years-old) found sex between two men "disgusting." Only 12% of these males stated that they

could imagine having a gay friend. Those males with more traditional gender role attitudes showed higher levels of homophobic views than those males with more egalitarian gender role attitudes.

More recently, Horn (2006) proposed that sexual prejudice peaks during mid-adolescence and then declines. Consistent with this view, a study comparing undergraduates and high school students by Van de Ven (1994) found lower levels of homophobia in the undergraduate than high school population. The high school students endorsed negative attitudes towards gays and lesbians and showed higher levels of homophobic beliefs and behaviors. Again, females were found to have less hostile attitudes towards gays and lesbians than their male peers.

Horn (2006) compared attitudes toward LGBT individuals among college and high school aged adolescents and found that comfort around, and tolerance for, gays increased with age: 10th graders were much less comfortable interacting with gay peers than were college students. They were also less likely to endorse the belief that teasing based on sexual orientation was wrong and more likely to say that excluding someone because they were gay was acceptable. In comparison, college-age students believed that sexual orientation-based teasing was wrong and they were more likely to accept a gay peer. Horn also found gender differences, with female participants being less uncomfortable interacting with gay people than male participants were.

Other studies have found similar results. Poteat and Anderson (2012) found a decrease in sexual orientation prejudice from early to late adolescence, with 12-year-olds showing the greatest amount of prejudice towards gays. Again, a gender difference was

found, with female (but not male) adolescents showing decreases in prejudice with age. Prejudice towards lesbians decreased with age among both female and male adolescents.

Two points about developmental changes in heterosexist attitudes across the lifespan are important to consider. First, the bulk of empirical work is correlational—rather than longitudinal—in nature, and thus it is possible that cohort effects are responsible for changes associated with age. Indeed, as I reviewed earlier, there has been significant change in heterosexist attitudes across generations in the U.S. Particular historical events (e.g., U.S. Supreme Court decisions) may produce attitudinal changes that are independent of changes associated with aging (e.g., cognitive development). Second, there is little extant work in the mechanisms that may be responsible for the formation and within-person changes over time in attitudes toward LGBT individuals. Although the process remains largely a mystery, it is likely that children's attitudes toward sexual orientation grow out of, or are at least related to, their views of gender role attitudes, which are quite well developed and extensive before children being formal schooling.

Children's Gender Roles Attitudes

Habituation studies show infants can categorize adults on the basis of gender by 6 months of age (Arthur et al, 2008). As children grow older, categorization based on gender increases and becomes more accurate. Gender is well established as a psychologically important social category among children by the age of two or three years. Adults make frequent use of gender to label and sort individuals and, as a

consequence, children learn that these labels signify important social groups (Arthur et al, 2008; Hilliard, & Liben, 2010).

At a very young age, children also show evidence of prejudice and stereotyping on the basis of gender. Stereotypes include children's views that gender is linked to various occupations, activities, and traits (Liben & Bigler, 2002). Children also show gender prejudice in their strong gender related preferences and same-sex favoritism (Arthur et al, 2008). Rigid endorsement of gender stereotypes and prejudice appears to decrease across the later elementary school years (Bigler & Liben, 1992), and—at the group level—to increase again during adolescence (referred to as "gender intensification"; see Galambos, Almeida, & Peterson, 2008).

It is also important to note that there are large individual differences in gender stereotyping and prejudice across children and adolescents (Arthur et al, 2008; Signorella, Bigler, & Liben, 1993; Leaper & Bigler, 2011; Fulcher et al, 2008). A host of factors have been found to predict variations in children's attitudes. For example, those children (a) whose parents model gender stereotypic attitude and behavior, (Fulcher et al., 2008) (b) who watch greater amounts of non-educational television (Signorella, Bigler, Liben, 1993), and (c) who play within same-gendered peer groups (Martin & Fabes, 2001) show higher levels of stereotyping and prejudice than their peers. Importantly, these individual differences in gender attitudes, in turn, shape children's attention and information processing in ways that reinforce their beliefs. So, for example, those children who strongly endorse gender stereotypes show worse memory for gender

counter-stereotypic information than those children with more egalitarian attitudes (Liben & Signorella, 1980; Signorella & Liben, 1984).

Bullying And Harassment of Gender Atypical Children

One area of research on gender role development that is especially relevant to heterosexism concerns gender atypical children. Several lines of work suggest that children exert considerable pressure on their peers to conform to traditional gender roles. For example, research suggests that children who engage in non-traditional gender behavior are punished by their peers (Langlois & Downs, 1979; Thorne & Luria, 1986; Martin, 2007). Recent research by Perry and his colleagues indicates that many children feel pressure to conform to gender norms (Carver, Perry, & Eagan, 2007; Eagan & Perry, 2001). Furthermore, Wallien et al. (2008) reported that those boys who showed high rates of cross-gendered behaviors were more rejected by their male (but not female) peers than those boys who showed low rates of cross-gendered behaviors.

Research on peer aggression and bullying has also pointed to gender atypicality as a risk factor for peer victimization (Wallien et al 2008; Carver, Perry, & Eagan, 2007). Those children who do not conform to these expected gender conventions are especially likely to be the victims of harassment and homophobic insults. As children age, peers who fail to conform to these standards become the targets of labels such as "gay" and "fag." Teachers of early elementary children often excuse these actions by claiming that these children do not fully understand what they are saying (Martin, 2007).

Research has shown that those children who question their sexuality often also show less traditional sex-typing and more gender atypicality than their peers. Although

not all children who experience teasing based on their gender typicality are or will be gay, many of these teased children experience a period of sexual questioning. For those individuals who eventually adopt a same-sex sexual orientation, this teasing can be very harmful. These children are less satisfied with their social relationships and experience stress about their social adjustment (Carver, Perry, & Egan, 2007).

In summary, children's gender attitudes are likely to affect the development of heterosexist views of relationships. In addition to learning that certain genders are linked to various occupations, activities, and traits, children are likely to learn that romantic relationships typically include one male and one female. Furthermore, many children endorse proscriptive beliefs about gender, endorsing the belief that women and men should conform to conventional gender roles. Similarly, it is likely that many children endorse proscriptive beliefs about gender and romantic relations, endorsing the belief that romantic relationships are appropriate only among cross-sex couples.

Children's Understanding of Sexuality

A complete understanding of the developmental trajectory of sexual prejudice is likely to require an understanding of children's knowledge about sexuality and sexual behavior. Current beliefs about what is appropriate for child research and stringent IRB requirements have prevented such research from taking place. As a consequence, we lack explicit measures of children's understanding of sexual interactions, and thus, much of what is known about children's understanding of sexuality derives from indirect methodologies, such as ethnographies of children's play and parent interviews.

Although many individuals claim that children are ignorant about sexuality, children's play and engagement in their everyday social worlds illustrates an awareness of sexuality (Thorne & Luria, 1986; Martin, 2007, 2009; Martin & Kazyak, 2009). During kindergarten, affectionate acts, such as hugs and holding hands, are common among both boys and girls. By 5th grade, boys become aware of the undertones in these affections and alter their behaviors; high fives replace handholding, and hugs turn into play fighting. More explicitly, an awareness of sexuality can be seen in children's secret conversations. Elementary school girls whisper about boys and romance while their male peers giggle over hushed utterances of dirty words and jokes. These conversations may not be the same as adults' conversations of similar topics, but they provide evidence that elementary school-aged children are aware of sexuality and romance (Thorne & Luria, 1986).

Very often the first questions that children ask their parents about sexuality concern reproduction and the differences between boys and girls. The latter question is normally answered by naturalizing the genders according to biological, genital differences (Martin, 2007). Questions about reproduction ("Where do babies come from?") are also often addressed in a biological context, which reinforces an understanding of sexuality that is inherently heterosexual.

Mechanisms in the Formation of Children's Heterosexist Attitudes

The mechanisms via which children learn heterosexist stereotypes and prejudice are likely to be the same mechanisms by which children learn *other* social stereotypes and prejudices. So, for example, young children learn the content of many forms of

stereotyping (e.g., gender, racial, weight, age) from parents, peers, teachers, and media. There is an enormous literature on the processes by which stereotypes and prejudice are learned, which has generated a long list of mechanisms. Rather than review all of the possible mechanisms, I review four mechanisms: parental socialization, peer socialization, observational learning, and the inherence heuristic.

Parental Socialization Parents are likely to teach their children about the normativity of heterosexuality, and their influence is likely to be much more direct (i.e., explicit) than the influences seen in other domain of stereotyping and prejudice (attractiveness, race, etc.). One of the most common ways this is done is through a mother's talk with her child. Adults also live in a heterosexist society, and this assumption of heterosexuality frames the way mothers think about their child's play and relationships, both in the present and future.

Parents believe that love is an important concept and often talk to their children about the topic (Martin, 2009). However, most parents' concepts of love are framed in a heterosexual context. Mothers' talk about romance, love, and weddings is often defined in the context of between a man and a woman, which inscribes heteronormativity into their child's knowledge and attitudes. Of course, the framing of romantic relationships as heterosexual is common among adults generally (teachers, neighbors, etc.). It is possible, however, that parental comments about children's own current and future relationships (e.g., an offhand comment to a daughter noting, "You can cook this dish for your husband when you are married!") are especially powerful in shaping children's heterosexist expectations about romantic relationships.

Peer Socialization Through play with their peers, children construct, reproduce, and practice the gender and sexual norms that they have learned from their social world. During games involving pretense, including "house" or "family," children create narratives about themselves and reproduce and enforce the roles that they have been socialized to follow. In an ethnographic study of a kindergarten class, Blaise (2005) saw children act out the traditional heterosexual roles in games such as house. In this kindergarten class, discussions of who would take each role of mom, dad, sister, brother were discussed before play even started, and the children made sure that the gender of the role matched the gender of the child taking it on. In one instance, two girls wanted to be the mom, and in the proceeding argument to decide who got the role, one of the children exclaims, "Listen, we can only have one mom. That is how a family is!" (p. 103). Many of the games and "playing with gender" Blaise observed went beyond the simple game of house. Blaise describes two girls playing a game of pretend in which one of them is getting ready for a date. The two kindergarteners engage in detailed conversations about what outfit to wear, and which makeup was necessary. They conclude, "We really have to look beautiful. You know, that is what our boyfriends want!" (p. 95). Children as young as 4 understand their expected gender roles and follow these roles during cross-gender interactions (Walls, 2008). They are also very aware of when they, or others, defy these norms.

Observational Learning Media also play a role in contributing to young children's knowledge of sexuality. Children's media typically present traditional gender roles (Martin & Kazyak, 2009). This traditionalism extends to romantic relationships.

Movies and television aimed at children nearly invariably portray romantic love as occurring between a man and a woman. For example, every one of the eleven Disney princesses (e.g., Snow White, Cinderella, Belle, etc.) is depicted as falling in love with a prince. These heterosexual couples teach children about the relations among romance, love, and physicality. Even depictions of non-human relationships conform to the rule of cross-sex romantic attraction. The anthropomorphized romantic pairing of dogs (*Lady and the Tramp*, *101 Dalmatians*), cats (*The Artistocats*), mice (*The Rescuers*), and insects (*A Bug's Life*), and even traditionally inanimate objects such as cars, (*Cars*) in children's movies are invariably heterosexual.

Furthermore, heterosexual love is portrayed in children's media as magical and transformative, and conversations between characters stress the power and overwhelming nature of love between female and male romantic partners (Martin & Kazyak, 2009). So, for example, the love of a woman transforms the "beast" in *Beauty in the Beast* into a fully human being. Indeed, heterosexual kisses are explicitly invested with the power to change afflicted others, changing a comatose woman into a healthy one (*Sleeping Beauty*) or an undesirable being (e.g., a frog) into a handsome one (a prince).

Even outside of romantic relationships, heterosexuality is reinforced in these movies by the portrayal of men ogling and desiring women's bodies (Martin & Kazyak, 2009). In *Beauty and the Beast,* Belle is ogled not just by her macho pursuant Gaston, but also by many of the men in her village. In the opening scene, Belle walks past a bookshop, where three men are hanging out of the window peering at her. As she gets closer, they avert their eyes from her body, pretending that they had not been staring. In

Toy Story 2, the male toys stumble upon a Barbie beach party in a toy store. Their jaws drop open as they stare at the bikini-clad Barbies, and Mr. Potato Head repeats over and over, "I'm a married spud. I'm a married spud." This depiction of heterosexuality normalizes men's objectification of women's bodies and the heterosexual desire this objectification represents. Similarly, women are depicted as competing against each other for men's sexual attention. The female villagers in *Beauty and the Beast* and *Cinderella* go to extreme lengths to alter their appearance in sexually alluring ways (e.g., make-up, high heels, tight dresses) to capture the male hero's gaze.

The Inherence Heuristic Virtually every venue of a child's world provides them with a model of gender or sexual roles that assumes heterosexuality. Heterosexuality is hegemonic in our culture. It is structured in social life so that heterosexuality is always assumed, expected, ordinary, and privileged (Martin, 2007). For example, school curriculums rarely include any reference to non-heterosexual families or couples, although they do include examples of other non-normative family structures such as single parents or families formed by adoption.

In an important theoretical paper, Cimpian and Salomon (2014) argued that children's understand of, and attitudes towards, the social world is shaped by an "inherence heuristic," defined as "an implicit cognitive process that leads people to explain observed patterns in terms of inherent features of their constituents" (p. 3). For example, many children (and even adults) explain the pattern of pink being a girl's color using the inherence heuristic: "Girls wear pink because it is an inherently feminine color." According to Cimpian and Salomon, the inherence heuristic can lead individuals

to make inferences that are incorrect, in large part because the heuristic causes the mind to ignore possible extrinsic explanations for observed patterns in the social world (e.g., historical and social causes), and instead explain certain patterns as intrinsic, natural, and inevitable. When people use the inherence heuristic, they use inaccurate evidence to make overconfident judgments about an often-seen pattern. Returning to the color pink example, the inherence heuristic leads people to believe that girls wear pink because it is inherently feminine (e.g., a soft, warm, gentle color). This mental judgment ignores historical evidence that could also explain the pattern of pink being a girl's color. In fact, in the past, pink was widely seen as a strong, bold, and masculine color.

The inherence heuristic is described by Cimpian and Salomon (2014) as a story-making tool. When sensible explanations are rich and plentiful, it is easy to ignore the inherence heuristic and create an explanation that is correct and uses external information. When little knowledge about a topic is available, it is more difficult to create a coherent theory, and the inherence heuristic is often invoked. The heuristic leads to explanations (or stories) that rely more on intuition than prior knowledge.

Also important in the theory of the inherence heuristic is the idea that patterns explained by the heuristic are seen as stable and inevitable. Once the inherence heuristic has been used to explain a pattern as being rooted in the very inherent nature of the thing, it becomes extremely hard to see that pattern in any other way.

Although the inherence heuristic is hypothesized to operate in both children and adults, Cimpian and Salomon (2014) posited that its operation is more extensive during childhood than adulthood. As children develop stronger cognitive skills, they may be able

to block or revise the inferences and explanations that they previously generated through the inherence heuristic. As this ability increases, the influence of the inherence heuristic may decline.

The inherence heuristic can be used to explain why children explain various kinds of patterns, and I propose that this heuristic can be used to explain why children believe that men and women belong paired together. Children repeatedly observe that romantic relationships include one man and one woman. They lack knowledge of non-heterosexual options and, importantly, lack knowledge about the *reasons* for the cross-sex pairing. Thus children are likely to use the inherence heuristic to explain this pattern. That is, I expect that children are likely to view heterosexual romantic relationships as natural, inevitable, legitimate, and the causal product of the inherent qualities of maleness and femaleness. Additional, specific hypotheses about variations in children's interpretations and attitudes toward same-sex romantic relations are described below.

The Present Study

The primary purpose of the present study was to examine the developmental onset and possible correlates of heterosexist attitudes among children between the ages of 5 and 9. This age range was chosen because it is characterized by a reliance on the inherence heuristic and precedes the typical onset of most sexual attractions among both heterosexual and LGBT individuals (McClintock & Herdt, 1996). In doing so, I developed and validated a measure of heterosexist views of relationships for use with elementary school-age (i.e., 5 to 10-year-old) children and tested four hypotheses about children's interpretations of, and attitudes toward, same-sex pairs. For reasons outlined

above, I first hypothesized that children will be better at interpreting cross-sex than same-sex pairs as having romantic relationships. Second, I hypothesize that children's accurate interpretation of same-sex pairs as romantic partners will increase across age. Younger children will be more likely to interpret these pairs as non-romantic (i.e., platonic or familiar relations), whereas older children will interpret these pairs as romantic partners. Third, I hypothesize that children's personal attitudes about same-sex couples and families will be more negative among boys than girls. Fourth, I expect that negative attitudes towards same-sex couples and families will be associated with higher levels of gender stereotyping. Finally, I hypothesize that negative attitudes towards same-sex couples and families will be associated with higher scores on the inherence heuristic measure. A summary of these hypotheses appears in Table 1.

Chapter 2: Methodology

Participants

Participants were 72 children (46 girls, 26 boys) between the ages of 5 and 9 years, recruited from afterschool programs, the database of research laboratory associated with a large research university, and word of mouth, in the southwestern US. Only those children who consented and whose parents also consented to their participation were included in the study. IRB materials are presented in Appendix A.

Procedure

Children were interviewed individually by one of four female trained experimenters. Children were told that they would be asked questions about advertising, including its purpose and their opinions about specific ads. After completing this measure, children's gender stereotyping and endorsement of the inherence heuristic measures were given (the order of the latter two measures was counterbalanced across participants). Children were then thanked for their participation and given a small trinket as a token of appreciation.

Measures

Heterosexist Attitudes. Walls (2008) criticized extant measure of heterosexism and homophobia for including only negatively valenced items and for being highly susceptible to social desirability demands. In response to these concerns, we created a measure of heterosexism that included positively valenced images of same-sex and cross-sex couples and assessed their attitudes about these images in the context of their views of advertisements and without labeling the individuals' sexual orientation (i.e., the nature

of the depicted individuals' relationship). This new measure, the Heterosexist Attitudes Towards Relationships Scale (HATRS), consists of 14 images (see Appendix B), all of which are advertisements from popular corporations such as Target, JC Penney, and Gap. The images fall into 4 categories: (a) explicitly romantic, (b) implicitly romantic, (c) familial, and (d) parent-infant. The *explicitly romantic* marriage category includes two images of heterosexual couples in wedding attire. Another image is of two women, both in wedding dresses, and the last is one of two men, both in tuxedoes. All images show the couple in the same intimate pose, in which the couple is looking at each other, and their foreheads are touching. The *implicitly romantic* couples images show couples: two heterosexual, one female-female, and one male-male. In these images, the people are dressed in everyday clothes, but their body language suggests some kind of romantic attraction. The *familial* category includes two images with a mom, dad, and children, one image with two moms and children, and one image of two dads and children. The last two images fall into the *parent-infant* category, and show a mother and a baby, and a father and a baby.

In individual interviews, children were asked a number of questions, which fall into four subscales: (1) *interpretation of relationship* (How do these people know each other? Are they friends, in love, married to each other, or in the same family?), (2) *personal attitudes towards relationship* (How much do you like this picture? How much do you like the people in this picture?), (3) *other's perceived attitudes toward relationship* (How much do you think other people like this picture) and (4) *relationship realism* (Is this picture like the real world? How do you know that this

picture is like/not like the real world?). Questions asked of children appear in Appendix C. Response options include: Like a lot, like a little, just ok, dislike a little, dislike a lot (see Appendix D).

Gender stereotyping. Children completed the activity subscale of the Children's Occupational Activity and Trait- Attitude Measure (COAT-AM) of gender stereotyping (Liben & Bigler, 2002) (Appendix E). Specifically, children were presented with 25 different activities (10 masculine, 10 feminine, 5 neutral) and were asked whether each activity should be performed by "only boys," "only girls," or "both boys and girls." Following Liben and Bigler (2002), the total number of "both boys and girls" answers, not including the 5 neutral items, was recorded and thus higher scores indicate higher levels of gender egalitarianism. Cronbach's alpha indicated that the measure showed good reliability (r = .916)

Inherence Heuristic. Children completed an inherence heuristic measure developed by Sutherland and Cimpian (in press) (Appendix F). This task measured how strongly individual children adhered to, and used, the inherence heuristic in their meaning-making. Here, they were presented with three different patterns they see often in their lives (birthday cakes have candles, school buses are yellow, coins are round). The images shown to children to illustrate each pattern can be found in Appendix F. They were then asked questions that explore their beliefs about these patterns. Questions included, "Do you think birthday cakes have always had candles, even way back when the first birthday cake was made?", "Do you think birthday

cakes will always have candles, even way into the future, when the very last birthday cake is made?", "Would it be okay to make a change so that birthday cakes don't have candle, or would it not be okay."

Children's answers that expressed a belief that things have always been one way, will always be one way, and cannot be changed were combined and averaged to create an inherence heuristic score between 0 and 1, with 0 representing no use of the inherence heuristic and 1 representing strict adherence to the inherence heuristic. Children answered the same set of questions three times for different patterns (school buses are yellow, coins are round, birthday cakes have candles). There were 5 types of questions for each pattern: (1) *past and future* (Have school buses always been yellow?; Will school buses always be yellow?), (2) *changeability,* (Would it be okay to change the color of school buses?), (3) *have to* (School buses are yellow because they have to be), (4) *don't have to* (School buses don't have to be yellow. It's just a nice idea), and (5) *realism* (Could they have called the color yellow something else?). For each of these categories, children's answers for the three different patterns were averaged together to create one score for each question category. These five scores were then averaged together to create one total inherence score between 0 and 1. Cronbach's alpha indicated that the measure showed good reliability (r = .71).

Chapter 3: Results

Overview of Analysis

Data analyses occurred in five steps. In a first step, I examined children's interpretation of the stimuli featuring same-sex and cross-sex pairs of individuals. In addition to descriptive analyses, I used regression analyses and ANOVA to test for variations in children's interpretation of the pairs as romantic partners across participant age and gender. In a second step, I examined relations among items aimed at tapping attitudes toward same-sex couples and, on the basis of results, created a composite heterosexist attitude score. In a third step, I examined children's attitudes toward same- and cross-sex pairs, both when they did and did not report them to be romantically involved. In a fourth and fifth step, I examine variation in children's interpretation of same-sex romantic pairs and heterosexist attitudes as a function of participant age and gender (step 4) and individual differences in the endorsement of the inherences heuristic and gender stereotypes (step 5).

Scoring

Interpretation Children's answers to the interpretation questions ("How do these people know each other?") were sorted into two categories: romantic and non-romantic. Any answer that stated that the couple were in love or married was counted as romantic. Any answer that described a platonic relationship, such as friends or family, was counted as non-romantic. For each image, an interpretation score was found by calculating the percentage of pairs (same-sex or cross-sex) in each relationship category that a child accurately interpreted. For example, a child who accurately interpreted both same-sex

marriage images would get an interpretation score of 1. A child who only interpreted one of those images would have a .5, and a child who accurately interpreted none of the same-sex marriage images would get a 0. The three scores for each category of same-sex pairs was that added together to create a total interpretation score, which had a maximum score of 3 (all correct) and a minimum score of 0 (none correct).

Attitudes Questions that addressed self attitudes ("How much do you like this picture?", "How much do you like these people?") and perceived others' attitudes ("How much do you think other people like this picture?") allowed children to answer using a scale from 1 to 5, with 1 being very negative and 5 being very positive. To create a total score of self-attitudes, children's scores for the two questions were averaged together to create a self attitudes score for each image. Next, the scores for same-sex pairs was average together for each category, and these three separate scores were then added together to create a total self-attitudes score, with a minimum of 3 and a maximum of 15. The same thing was done for cross-sex attitudes scores. Finally, a total HATRS score was computed by finding the difference between the total same-sex and cross-sex attitudes scores. Positive difference scores signified a preference for cross-sex couples, and negative difference scores signified a preference for same-sex couples.

Others' attitudes scores were scored similarly. The three scores for each relationship category were added up to create a total same-sex attitudes score and a total cross-sex attitudes score.

Interpretations of Same- and Cross-Sex Romantic Pairs

Overview. Our measure of interpretation stemmed from the item of the HATRS that asked, “How do these people know each other?” and four follow-up questions (e.g., "Are they in love?" "Are they married?"; see Appendix C). Percentage correct scores were calculated for interpretations of same- and cross-sex couples in each of the three relationship categories. Post-hoc comparisons among means here and throughout the paper conducted using Tukey HSD tests.

A 3 (relationship type: couples, spouses, parents) X 2 (orientation: same-sex or cross-sex) ANOVA was used to examine accuracy of interpretation across the images of pairs. Means and standard deviations are presented in Table 2. As hypothesized, results indicated a significant effect of orientation, $F(1, 422) = 864.31$, $p < .001$. Children were more accurate at identifying cross-sex than same-sex pairs. Results also indicated a significant effect of relationship type, $F(2, 422) = 29.27$, $p < .001$. Post hoc comparisons among means indicated that children were more accurate at interpreting the spouse images ($M = .65$, SD = .46) than family images ($M = .55$, SD = .48), $t(284) = 4.43$, $p < .01$, and couple images ($M = .41$, SD = .46), $t(282) = 2.09$, $p < .01$. In addition, children were more accurate at interpreting family images than couple images, $t(284) = 2.27$, $p < .01$,

Same-sex pairs. Because children performed near ceiling in their accurate interpretation of cross-sex pairs, we conducted follow-up analyses of their interpretation of same-sex pairs. A 2 (participant gender) X 2 (pair gender: females, males) ANOVA indicated a significant effect of participant gender on children’s accurate interpretation of same-sex pairs, $F(1, 416) = 8.38$, $p < .004$. Means and standard deviations are presented

in Table 3. Girls were significantly more accurate than boys at interpreting same-sex pairs. There was no significant effect of pair gender, $F(1, 416) = .18, p = .67$.

Next, the percentage correct score for same-sex couples served as the dependent measure in a regression analysis in which participant age in years was entered as a predictor. Contrary to expectation, age did not predict children's accurate interpretation of the same-sex couples, $b = -.06, t(70) = -1.08, p = .28$.

Personal Attitudes Toward Same- and Cross-Sex Romantic Pairs

Overview. I began by computing the correlation for the two HATRS items aimed at assessing personal liking of the pairs: "How much do you like this picture?" and "How much do you like the people in this picture?" Results indicated that responses to the two items were significantly correlated, $r(831) = .70, p < .001$. Thus, responses were averaged to form a composite score.

As described above, many children interpreted the same-sex couples as something other than romantic couples. Indeed, 58% of participants (42 of 72) interpreted all six of the same-sex pairs (i.e., lesbian and gay couples, spouses, and parents) as heterosexual. Thus I sought to examine the variations among personal attitudes separately among children who did and did not appear to have a schema for same-sex romantic relationships. Those children who correctly identified one or more of the same-sex pairs as romantic couples were counted as a "correct labelers," whereas those children who failed to identify any same-sex pairs as romantic were categorized as "incorrect labelers." I selected this criterion because labeling even a single pair as romantic showed an awareness of the possibility of non-heterosexuality (i.e., a schema for same-sex romantic

relationships) and this categorization resulted in reasonably sized samples of correct labellers ($N = 30$) and incorrect labellers ($N = 42$).

Correct labelers. A 3 (relationship type: couples, spouses, parents) X 2 (orientation: same-sex or cross-sex) ANOVA indicated a significant main effect of orientation on liking, $F(1, 174) = 5.35$, $p = .02$. Means and standard deviations appear in Table 4. Children reported higher liking of the cross-sex than same-sex pairs. Neither the main effect nor interaction involving relationship type was significant, $F(2, 174) = 1.70$, $p = .19$, and $F(2, 174) = .34$, $p = .71$, respectively.

To test whether attitude scores varied as a function of participants' gender and age, separate regression models were run for 1) ratings of same-sex pairs, 2) ratings of cross-sex pairs, and 3) degree of preference for cross-sex over same-sex pairs, referred to as a "bias score" (i.e., ratings of cross-sex pair minus ratings of same-sex pair ratings). All three models indicated no effect for participants' gender or age. Regression results are presented in Table 5.

Finally, we tested whether child's gender affected their liking of the same-sex pairs. A 2 (participant gender) X 2 (pair gender: females, males) repeated measures ANOVA was run for the group of correct labellers and revealed a significant interaction of participant gender on image gender, $F(1, 176) = 10.66$, $p < .003$. Post hoc comparisons among means indicated that girls had more positive attitudes towards the female ($M = 3.77$, SD = 1.07) than male ($M = 3.17$, SD = 1.27) pairs, $t(178) = -1.95$, $p = .01$) whereas boys had more positive attitudes towards the male ($M_{=} 3.81$, SD = 1.39) than female ($M = 3.02$, SD = .14) pairs, $t(130) = -3.46$, $p = .02$.

Incorrect labellers. A 3 (relationship type: couples, spouses, parents) X 2 (orientation: same-sex or cross-sex) ANOVA results indicated no significant effects. Means and standard deviations appear in Table 4. As might be expected given their interpretation of all the couples as heterosexual, children's attitudes toward same- and cross-sex pairs did not differ, $F(1, 244) = 3.27, p = .07$. There was, however, a slight (non-significant) tendency to rate cross-sex pairs more favorably than same-sex pairs.

To test whether attitude scores varied as a function of participants' gender and age, separate regression models were run for 1) ratings of same-sex pairs, 2) ratings of cross-sex pairs, and 3) degree of preference for cross-sex over same-sex pairs, referred to as a "bias score" (i.e., ratings of cross-sex pair minus ratings of same-sex pair ratings). The model for same-sex pairs indicated that there was no relationship between attitudes and participants' gender or age. Results for this regression can be found in Table 5. The model for cross-sex pairs showed that participant age predicted children's attitudes towards the romantic pairs $b = -.87, t(38) = -2.70, p = .01$. As children got older, their liking for cross-sex pairs decreased.

Others' Attitudes Toward Same- and Cross-Sex Romantic Pairs

Overview. Children's perception of other people's attitudes was assessed by the question, "How much do you think other people like this ad?" Following the procedure used for personal attitudes, I examined ratings separately among correct and incorrect labelers.

Correct labelers. A 3 (relationship type: marriage, couples, and family) X 2 (orientation: same-sex or cross-sex) ANOVA was used to examine variations in attitudes

among correct labelers. Means and standard deviations appear in Table 6. Results indicated a significant effect of orientation on their perceived attitudes of others, $F(1, 168) = 4.48, p = .04$. Children perceived other individuals' attitudes as more favorable towards cross-sex than same-sex couples. There were no significant effects involving relationship type.

Incorrect labelers. A 3 (relationship type: marriage, couples, and family) X 2 (orientation: same-sex or cross-sex) ANOVA was used to examine variations in attitudes among incorrect labelers. Means and standard deviations appear in Table 6. Results indicated no significant effects. That is, children who did not accurately label the same-sex pairs perceived other individuals to view same- and cross-sex pairs equally favorably, $F(1, 244) = 1.21, p = .27$.

Participant age and gender differences. To examine the effects of participant age and gender on children's perceived other's attitudes, a battery of regressions were run. Age and gender (dummy coded: 1 = female, 0 = male) served as predictors in three different regressions. The dependent variables were: (1) other's attitudes toward same-sex pairs, (2) other's attitudes toward cross-sex pairs, and (3) others' degree of preference for cross-sex over same-sex pairs, referred to as a "bias score" (i.e., ratings of cross-sex pair minus ratings of same-sex pair ratings). These regressions used the entire sample, and produced no significant effects of participant age or gender. Results can be found in Table 7.

To further explore these relations, the sample again was split into two groups: those children who accurately labeled the same-sex images and those children who did

not. When the three models described above were re-run for the correct and incorrect labelers, results again indicated no significant effects of participant age and gender (see Table 7).

Individual Difference Predictors of Heterosexist Attitudes

Overview. I measured two potential sources of individual differences hypothesized to predict children's views of same-sex couples: endorsement of the inherence heuristic and gender stereotypes. Means, standard deviations, and partial correlations among these variables and participant age and gender are present in Table 8. For each variable, I examined whether individual variation in participants' scores was predictive of their (a) interpretation of same-sex pairs, (b) personal attitudes toward same-sex pairs, or (c) others' attitudes toward same-sex pair, using a series of regression analysis. Results for these regressions can be found in Table 9 for inherence heuristic results and Table 10 for gender stereotyping.

Endorsement of gender stereotypes. To test whether gender stereotyping was predictive of children's (a) interpretation of same-sex pairs, (b) personal attitudes toward same-sex pairs, or (c) others' attitudes toward same-sex pairs, a series of regression models were run. Results are presented in Table 10 and indicated that gender stereotyping did not significantly predict any aspect (i.e., interpretation, personal attitudes, or predictors of others' attitudes) of children's views of same-sex couples.

Endorsement of inherence heuristic. A regression for the entire sample found that adherence to the inherence heuristic did not significantly predict children's accurate interpretation of the same-sex romantic pairs, $b = .43$, $t(69) = 1.33$, $p = .19$. However, for

the sample of children that correctly interpreted at least one of the six same-sex pairs images, a regression found that adherence to the inherence heuristic significantly predicted children's accurate interpretation of the same-sex romantic pairs, $b = .17$, $t(28) = 2.40$, $p = .02$.

To examine whether children's use of the inherence heuristic also explained a significant proportion of variance in the HATRS scores, a series of regressions were run for the group of children who accurately labeled the same-sex romantic pairs. For the correct labellers, their adherence to the inherence heuristic did not predict children's HATRS scores (bias score) $R^2 = .01$, $F(1, 28) = .01$, $p = .91$.

Chapter 4: Discussion

Prejudice and discrimination toward sexual minorities is common in the U.S. and is a topic of concern for K through 12 educators because they are legally obligated to protect children from bullying based on their own and their family members' sexual orientation (GLSEN, 2001). Little is known, however, about the development or causes of heterosexist attitudes among elementary school-age children. The primary goal of the current study was to examine the development and possible correlates of heterosexist attitudes in children aged 5- to 9-years-old. The findings begin to illuminate the nature and development of heterosexism in childhood.

As I expected, children were much more accurate at interpreting cross-sex than same-sex romantic relationships, suggesting that children view romantic relationships through heterosexist lenses. The wedding photos (i.e., "spouses" depicted with individuals facing each other and touching foreheads) signaled romantic relationships especially effectively. Every participant labeled the two cross-sex marrying couples as romantic (e.g., "in love" or "marrying"), indicating that children as young as 5 have a schema for heterosexual romantic relationships. That is, even the youngest children in this sample could readily discriminate friendship (even those depicted by physical affections, such as hugging) from romantic love. Importantly, however, this schema only included cross-sex relationships for most children. Less of than half of the sample identified any one of the six same-sex couples as romantic. The same-sex spouses, whose posture and pose mirrored those of the cross-sex marrying couples, were identified as romantic pairs by 30.30% of the participants.

This finding makes sense in the context of social learning theory, in which children construct their schemas by gathering input from the social world around them. For many of these children, their social worlds are entirely heterosexual. The media to which children are exposed are almost always heterosexual (e.g., Disney movies, children's television and books). The existence of a schema for romantic relationships in young children also supports Martin's (2007) findings that children are taught about heterosexuality in almost every social venue, but are rarely, if ever, taught about non-heterosexual alternatives. Because our stimuli were presented to children as advertisements, it is possible that the procedures were especially likely to trigger their media-based schemas for romantic relationships.

Somewhat surprisingly, girls were much better at accurately interpreting same-sex romantic pairs than boys. There are several possible explanations for this finding. First, it is possible that girls have earlier and more developed schemas of romance than boys. Girls are "Disney Princess-ified" at a very young age, and are told by media and by their mothers (Martin & Kazyak, 2009) that a successful future involves marriage and romance, whereas boys do not receive this early preparation for adult romance. This emphasis might lead girls to think more often and extensively about romance than boys, making them better at identifying romantic relationships even in less common (e.g., same-sex) forms. Alternatively, it seems possible that parents are more likely to inform daughters than sons about LGB people and relationships. Proscriptive and prescriptive cultural norms are narrower and stronger for masculinity than femininity (Bem, 1994; Horn, 2006; Schope & Eliason, 2004). It seems possible, therefore, that it is more

threatening for parents to imagine their son than their daughter developing same-sex romantic relationships and, as a consequence, they might be more reluctant to inform their sons than daughters about the existence of same-sex romantic relations.

In interpreting the relationship between the people in the images, many children constructed new realities, similar to the gender reconstructions reported in studies of children's encoding and retrieval of gender counterstereotypic messages (e.g., Signorella and Liben, 1984). The most common change occurred in the family image with two mothers. Children often labeled the people in that image as a child, a mom, and a grandma, changing one of the moms into a grandma so that the image could fit their heterosexist image of family. More dramatically, two children labeled one of the men in the two-father family as the "mom", showing how strongly children's schemas can distort reality so that images fit into their existing schemas.

Although I hypothesized that older children would be more accurate at interpreting the same-sex romantic pairs, I found no evidence for such a pattern. Some 5-years-olds correctly interpreted multiple same-sex pairs accurately and some 9-year-olds incorrectly interpreted every same-sex pair as heterosexual. Children's ability to accurately interpret same-sex pairs as romantic is perhaps a result of their acquaintance with gay or lesbian individuals, or a result of being explicitly taught about such relationships and orientations by parents or other adults. That is, these data suggest that knowledge of non-heterosexual romance is not something that children gradually come to learn with age.

Children's attitudes, both their personal views of same-sex romantic pairs and their perception of others' views of such pairs, varied as a function of whether they had accurately or inaccurately labeled the same-sex pairs. As would be expected, those children who incorrectly interpreted the same-sex couples as heterosexual had no difference in their attitudes towards the same-sex and cross-sex pairs; they liked all the images equally. However, those children who accurately interpreted the same-sex pairs as romantic reported more positive attitudes towards the cross-sex (i.e., straight) than same-sex (i.e., gay and lesbian) pairs. It seems that even these children – at the group level— showed evidence of heterosexism by rating the cross-sex pairs more positively than the same-sex pairs.

If "correct labeling" children were able to accurately interpret the same-sex pairs because they had contact with an LGB person (parents, another family member, or close friend), one might expect such children to show positive attitudes toward such pairs. However, it is possible that there are children who have close contact with an LGB person, but also hear negative comments about this person and their orientation when they are not around from their parents and other adults. Our proposed contact theory only explains why these children will be more accurate in identifying LGB people and romance, but does not account for differences in levels of attitudes towards these non-heterosexual relationships.

I hypothesized that girls' attitudes would be more positive than boys' attitudes toward same-sex romantic pairs, but I did not find evidence to support this prediction. Adult samples consistently find that women endorse less heterosexist and homophobic

attitudes than do men (Baker & Fishbein, 1998; Horn, 2006; Marsiglio, 1993; Morrison et al., 1993; Poteat & Anderson, 2012; Price, 1987; Van de Ven, 1994). The absence of such a sex difference among children suggests that males and female acquire different views of same-sex relationships over time. It is important to note, however, that relatively few boys were able to identify the same-sex romantic relations depicted these stimuli. As additional boys come to recognize same-sex romantic pairs, they may be especially likely to view them negatively, producing the sex difference in heterosexism typically seen among adults.

Although there was not an overall gender difference in attitudes toward same-sex couple, girls rated female same-sex couples more positively than male same-sex couples, whereas boys rated male same-sex couples more positively than female same-sex couples. Children preferred the couple that shared their gender, a result that reinforces the consistent finding in gender development that young children prefer their own gender to the opposite gender. (Bem, 1983; Martin, 1981)

In addition to examining children's interpretation and attitudes towards same-sex romantic pairs, I also explored two potential sources of individual differences: the inherence heuristic and gender stereotyping. Counter to our expectations, I found no relationships between interpretation of, or attitudes towards, same-sex couples and children's gender stereotyping. Some accurate interpreters showed high levels of gender egalitarianism, whereas others showed adherence to rigid gender roles. It is possible that two types of children develop schemas for same-sex relationships: 1) children who grow up in liberal and gender egalitarian environments, perhaps as a result of being taught

positive attitudes towards same-sex romantic relationships and 2) children who grow up in conservative and sex-typed environments, perhaps as a result of being taught negative attitudes towards same-sex romantic relationships.

According to Cimpian and Salomon (2014), children view the patterns they see consistently in their environment as natural and good. In the context of romantic relationships, heterosexual couples and parents appear more often in children's environments than their LGB counterparts as a result of both greater statistical frequency of heterosexual romance and societal prejudice towards nonheterosexual romance. Thus young children should prefer heterosexual relationships, viewing them as the natural, legitimate and good, in contrast to the "unnatural" non-heterosexual relationships. Because so many of our participants didn't interpret the same-sex couples as romantic, it was impossible to fully examine the effect of the inherence heuristic for the whole sample. Among those children who *incorrectly* labeled the same-sex couples, high inherence heuristic thinking predicted positive attitudes towards same-sex couples and cross-sex couples. This makes sense because all of the pairs aligned with these children's existing schemas for "natural" and "normal" romantic relationships.

Among those children who accurately labeled the same-sex pairs as LGB romantic couples, high inherence scores predicted children's interpretation scores. Children that were more rigid in their use of the inherence heuristic accurately interpreted a greater proportion of the same-sex pairs as romantic, which is counter to the theory laid out in Cimpian and Salomon (2014) and ideas that described by Bigler and Clark (2014).

Interestingly, children's inherence heuristic scores did not predict their attitudes towards same-sex couples. Apparently, children's reliance on the inherence heuristic within some particular contexts (i.e., yellow school buses, round coins) was not associated with more negative attitudes toward same-sex romantic couples. It is worth noting that many of our correct interpreters were young elementary school-age children. Reliance on the inherence heuristic is higher among younger than older children (Sutherland & Cimpian, in press), which may explain why so many of our accurate interpreters were also high inherence heuristic thinkers.

Limitations and Future Directions

Although these findings make important contributions to our emerging knowledge of children's views of same-sex romantic relations, it is important to use caution in interpreting these results. Importantly, our sample size was relatively small and included participants from a single urban setting in the southwestern U.S. Our results could be skewed because they were found using a sample of children from a very liberal Texas city. Alternatively, our results could have been skewed in the opposite direction because our participants live in a state without legal marriage equality. If this study was run in a state in which marriage equality has been legal for years (ie: Massachusetts, New York, New Jersey), the children in our study might look very conservative in comparison.

There are also important methodological limitations to our study, the first being our inability to label the couples as gay and lesbian to all participants, which prevented us from gaining a more comprehensive view of children's attitudes. It is very possible that some children thought that the same-sex pairs were romantic, but did not say so out of

fear of talking to an adult about something inappropriate, or because of embarrassment. In fact, at one point during data collection, two girls who had already completed the study were talking with each other about the images. One girl, who had labeled the male-male marriage image as "friends" asked her friend if she had seen the picture of the two men getting married. Other children similarly labeled a same-sex pair as non-romantic, but later in the interviews betrayed their initial answer, and revealed some understanding of the images romantic nature, stating things such as. "Two boys can't get married" or "Those are two ladies and two of the same can't get married." It would be beneficial to be able to consider the attitudes of all children, including these children who seem to be developing a schema for same-sex romance.

Additionally, I did not collect data on parental views of sexual minorities. This kind of data will be necessary test whether children's ability to accurately interpret same-sex romantic pairs increases when they have frequent and close contact with an LGB person (or persons). This kind of environmental data would also be helpful in exploring our suggested explanation for gender stereotyping differences. Knowing if children are growing up in a religious, conservative household, or an egalitarian, liberal household would help illuminate the process of gender stereotyping and children's general attitudes towards LGB people. Collecting this kind of parent and environmental data is a planned future direction.

Table 1

Overview of Hypotheses

H1	Children will be more accurate at interpreting cross-sex romantic relationships than same-sex romantic relationships
H2	Children's accurate interpretation of same-sex pairs as romantic partners will increase across age.
H3	Children's personal attitudes about same-sex pairs will be more negative among boys than girls.
H4	Negative attitudes towards same-sex pairs will be associated with higher levels of gender stereotyping.
H5	Negative attitudes towards same-sex couples and families will be associated with higher scores on the inherence heuristic measure.

Table 2

Accurate Interpretation of Same- and Cross-Sex Pairs

	Orientation			
	Same-sex		Cross-sex	
	M	SD	M	SD
Relationship Type				
Couples	.03	.13	.78	.35
Spouses	.30	.43	1.00	.00
Parents	.12	.27	.95	.17
Total	.15	.32	.91	.25

Note. Scores are the percentage of couples (of 2 possible) that were accurately identified.

Table 3

Accurate Interpretation of Same-Sex Pairs by Participants' and Pairs' Gender

	Pair Gender			
	Male pairs		Female Pairs	
	M	SD	M	SD
Participant Gender				
Girls	.21	.41	.17	.38
Boys	.08	.27	.09	.29
Total	.19	.40	.09	.28

Note. Scores are the percentage of couples (of 3 possible) that were accurately identified.

Table 4

Personal Attitudes Toward Same- and Cross-Sex Pairs

	Orientation			
	Same-sex		Cross-sex	
	M	SD	M	SD
Correct Labelers (N = 30)				
Couples	3.40	1.08	3.61	1.07
Spouses	3.30	.99	3.81	1.25
Parents	3.66	.94	3.99	.75
Incorrect Labelers (N = 42)				
Couples	3.19	.94	3.43	.96
Spouses	3.20	.89	3.37	1.19
Parents	3.45	1.06	3.73	.90

Note. Scores are the ratings of personal liking and range from 1 to 5, with higher scores indicating greater liking.

Table 5

Predictors of Personal Attitudes Toward Same- and Cross-Sex Romantic Pairs

	Beta	R^2	F	p
Correct Labelers				
Model 1				
DV = Same-Sex				
Age	.05	.00	.03	.87
Gender	-.19	.00	.03	.86
Model 2				
DV = Cross Sex				
Age	-.14	.03	.41	.40
Gender	.88	.03	.41	.65
Model 3				
DV = Bias Score				
Age	-.19	.05	.68	.53
Gender	1.07	.05	.68	.30
Incorrect Labelers				
Model 1				
DV = Same-Sex				
Age	-.46	.10	2.06	.33
Gender	.79	.10	2.06	.15
Model 2				
DV = Cross Sex				
Age	-.87	.20	4.87	.01***
Gender	.68	.20	4.87	.41
Model 3				
DV = Bias Score				
Age	-.39	.06	1.19	.98
Gender	-.02	.06	1.19	.14

Table 6

Ratings of Others' Attitudes Toward Same- and Cross-Sex Pairs

	Orientation			
	Same-sex		Cross-sex	
	M	SD	M	SD
Correct Labelers (N = 30)				
Couples	3.62	1.01	3.83	.98
Spouses	3.40	1.19	3.93	1.12
Parents	3.86	1.02	4.10	.76
Incorrect Labelers (N = 42)				
Couples	3.65	.78	3.70	.94
Spouses	3.65	.82	3.87	.96
Parents	3.78	.76	3.87	.78

Note. Scores are the ratings of personal liking and range from 1 to 5, with higher scores indicating greater liking.

Table 7

Predictors of Others' Attitudes Toward Same- and Cross-Sex Romantic Pairs

	Beta	R^2	F	p
Correct Labelers				
Model 1				
DV = Same-Sex				
Age	-.13	.33	1.49	.50
Gender	-.28	.33	1.49	.50
Model 2				
DV = Cross Sex				
Age	-.11	.04	.53	.59
Gender	-.78	.04	.53	.43
Model 3				
DV = Bias Score				
Age	.02	.03	.44	.91
Gender	.18	.03	.44	.37
Incorrect Labelers				
Model 1				
DV = Same-Sex				
Age	-.32	.09	1.87	.06
Gender	-.07	.09	1.87	.66
Model 2				
DV = Cross Sex				
Age	-.19	.08	1.53	.27
Gender	.16	.08	1.53	.36
Model 3				
DV = Bias Score				
Age	-.01	.03	.57	.95
Gender	.17	.03	.57	.3

Table 8

Partial Correlations Among Participants' Inherence Heuristic, Gender Stereotyping Scores, Age, and Gender

		1	2	3.	4
Inherence Heuristic	Correlation	1.0	-.06	-.34**	.22
	Significance (2-tailed)	.	.61	.003	.07
	df	0	71	72	72
Gender Stereotyping	Correlation	-.06	1.0	-.02	.15
	Significance (2-tailed)	.61	.	.90	.23
	df	71	0	71	71
Participant Age	Correlation	-.34**	-.02	1.0	-.06
	Significance (2-tailed)	.003	.90		.60
	df	72	71		72
Participant Gender	Correlation	.22	.15	-.06	1.0
	Significance (2-tailed)	.07	.23	.60	
	df	72	71	72	
Mean		.27	9.2	6.6	N/A
Standard Deviation		.24	5.9	1.5	

Note: Inherence heuristic scores range from 0-1, with a higher score indicating higher adherence to the inherence heuristic. Gender stereotyping scores range from 0-20, with a higher score indicating greater gender egalitarianism, and lower scores indicating higher gender stereotyping.

Table 9

Effects of Inherence Heuristic on Accurate Interpretation of and Attitudes Toward Same-Sex Romantic Pairs

	Beta	R^2	F	p
Whole Sample				
Model 1				
DV = Interpretation of Same Sex Pairs	.43	.16	1.76	.19
Model 2				
DV = Personal Attitudes Toward Same-Sex Pairs	2.78	.07	5.47	.02
Model 3				
DV = Perceived Others' Attitudes Toward Same-Sex Pairs	1.75	.04	2.42	.13
Correct Labellers				
Model 1				
DV = Interpretation of Same Sex Pairs	.17	.17	5.77	.02
Model 2				
DV = Personal Attitudes Toward Same-Sex Pairs	.21	.00	.01	.91
Model 3				
DV = Perceived Others' Attitudes Toward Same-Sex Pairs	.59	.00	.08	.79
Incorrect Labellers				
Model 1				
DV = *Personal Attitudes Toward Same-Sex Pairs Same-Sex Pairs*	4.56	.20	9.95	.00
Model 2				
DV = *Perceived Others' Attitudes Toward Same-Sex Pairs*	2.56	.11	4.44	.04

Table 10

Effects of Gender Stereotyping on Accurate Interpretation of and Attitudes Toward Same-Sex Romantic Pairs

	Beta	R^2	F	p
Whole Sample				
Model 1				
DV = Interpretation of Same Sex Pairs	-.01	.01	.51	.48
Model 2				
DV = Personal Attitudes Toward Same-Sex Pairs	-.01	.00	.03	.86
Model 3				
DV = Perceived Others' Attitudes Toward Same-Sex Pairs	-.05	.02	1.20	.30
Correct Labellers				
Model 1				
DV = Interpretation of Same Sex Pairs	-.01	.01	.22	.64
Model 2				
DV = Personal Attitudes Toward Same-Sex Pairs	-.01	.00	.00	.95
Model 3				
DV = Perceived Others' Attitudes Toward Same-Sex Pairs	-.05	.01	.33	.57
Incorrect Labellers				
Model 1				
DV = *Personal Attitudes Toward Same-Sex Pairs*	-.01	.00	.01	.91
Model 2				
DV = *Perceived Others' Attitudes Toward Same-Sex Pairs*	-.05	.02	.90	.35

Appendix A

IRB USE ONLYStudy Number: 2013-03-0045

Approval Date: 05/22/2013

Expires: 04/23/2014

Parental Permission for Children Participation in Research Title: Advertising and Gender Roles

Introduction

The purpose of this form is to provide you (as the parent of a prospective research study participant) information that may affect your decision as to whether or not to let your child participate in this research study. The person performing the research will describe the study to you and answer all your questions. Read the information below and ask any questions you might have before deciding whether or not to give your permission for your child to take part. If you decide to let your child be involved in this study, this form will be used to record your permission.

Purpose of the Study

If you agree, your child will be asked to participate in a research study about the effects of advertising on children's views of human relationships, especially as they relate to gender roles. The purpose of this study is to (1) assess what young children understand about advertising and the factors that shape the content of ads, (2) use advertising images to get insight into children's interpretation of, beliefs about, and evaluation of, contemporary gender roles.

What is my child going to be asked to do?

If you allow your child to participate in this study, they will be asked to participate in a one-on-one interview with a trained experimenter. During this interview, your child will:

1. be asked two open-ended questions that probe their understanding of advertising ("What is purpose or reason for advertising? and "Who decides what advertisements should look like?)

2. be shown 14 advertisements that depict diverse human relationships (e.g., types of families), and after each image will be asked 5 questions about them (e.g., "What is being sold in this advertisement?" and "How much do you think that this ad will work to sell the product?" and "Are the people in this ad like the people in real life?"). Here are 6 that are included:

3. complete a 25-item measure of gender stereotyping ("Who should do the job of being a _____ ? "Only men," "Only women," or "Both men and women.") and a 3-item measure of about the necessity of relations between objects (school buses, birthday cakes, and coins) and their qualities (being yellow, having candles, and being round, respectively).

This study will take 30 minutes and there will be 120 other children in this study.

What are the risks involved in this study?

There are no foreseeable risks to participating in this study.

What are the possible benefits of this study?

The study may lead children to have a better understanding of the goals of advertising and be more skeptical of the reality of advertising images.

Does my child have to participate?

No, your child's participation in this study is voluntary. Your child may decline to participate or to withdraw from participation at any time. Withdrawal or refusing to participate will not affect their relationship with The University of Texas at Austin in any way. You can agree to allow your child to be in the study now and change your mind later without any penalty.

What if my child does not want to participate?

In addition to your permission, your child must agree to participate in the study. If your child does not want to participate, he or she will not be included in the study and there will be no penalty. If your child initially agrees to be in the study, he or she can later decide not to participate without any penalty.

Will there be any compensation?

Neither you nor your child will receive any type of payment for participating in this study.

What are the confidentiality or privacy protections for my child's participation in

this research study?

This study is confidential and no audio or videotaping will be conducted. Individual participants will be assigned an identification number, and their names wll not be recorded on their response sheets. Only the primary investigator will have a copy of the list of participants with informed consent and their corresponding identification numbers. This list will be stored in a locked cabinet that is separate from that in which the response sheets are stored. Following data collection, all paper copies of data will be stored in a locked cabinet in the Bigler Laboratory, located in Seay 1.322 at UT-Austin. Only the two co-investigators and a small number of trained undergraduate research assistants will have access to paper copies of data. Electronic data files will not contain any identifying information. Only the two coinvestgators and a small number of trained undergraduate research assistants will have access to electronic data files.

Whom to contact with questions about the study?

Prior, during, or after your participation you can contact the researcher Caitlin Clark at (516)376-3301 or send an email to caitlin.clark@utexas.edu**.** You may also contact herresearch supervisor, Rebecca S. Bigler, Professor of Psychology, at 512-471-9917 or bigler@austin.utexas.edu. This study has been reviewed and approved by The University Institutional Review Board and the study number is 2013-03-0045.

Whom to contact with questions concerning your rights as a research participant?

For questions about your rights or any dissatisfaction with any part of this study, you can contact, anonymously if you wish, the Institutional Review Board by phone at (512) 471-8871 or email at orsc@uts.cc.utexas.edu.

Signature

You are making a decision about allowing your child to participate in this study. Your signature below indicates that you have read the information provided above and have decided to allow him or her to participate in the study. If you later decide that you wish to withdraw your permission for your child to participate in the study, you may discontinue his or her participation at any time. You will be given a copy of this document.

Printed Name of Child

Signature of Parent(s) or Legal Guardian Date

Signature of Investigator Date

IRB USE ONLYStudy Number: 2013-03-0045

Approval Date: 04/24/2013

Expires: 04/23/2014

Assent for Participation in Research Title: Advertising and Gender Roles

Introduction

I am inviting you to be in a research study about how kids think about advertisements. You have probably seen lots of advertisements. Here are some examples. (Show a McDonalds ad, a toy ad, and a car ad). This study was explained to your parent(s) and they said that you could be in it if you want to. We are doing this study to find out what kids know about advertising and to find out what kind of things in advertisements kids think are important. We also want to find out how advertisements might teach kids about the things that boys and girls do that are *different* and the things that they do that are the *same*.

What am I going to be asked to do?

If you agree to be in this study, I will ask you some questions about advertising. These questions are not a test. There are no right or wrong answers to my questions. We just want to know what kids think about adverising and the things that boys and girls can do! So, if you say "yes" to being in the study, I will show you some different advertisements and ask you some questions after each one. I will also ask you some questions about job that men and women can do.

My questions will take 30 minutes. You aren't the only person that we asking. We hope to ask our questions to more than 100 kids!

What are the risks involved in this study?

There are no risks to being in this study.

Do I have to participate?

You do not have to be in this study. You should only be in the study if you want to. You can even decide you want to be in the study now, and change your mind later. It will be fine if you want to quit and you can quit at any time!

If you would like to participate, write or sign your name on the line at the bottom of this form. You can have a copy of this form so, if you want to, you can look at it later.

Will I get anything to participate?

You won't get anything for helping us but a "thank you!"

Who will know about my participation in this research study?

Everything that you say will be kept private. We won't show your answers to anyone that you know and we will wrote down a number – and not your name – on your paper.

The University of Texas at Austin Page 1 of 2 Institutional Review Board – June 2011

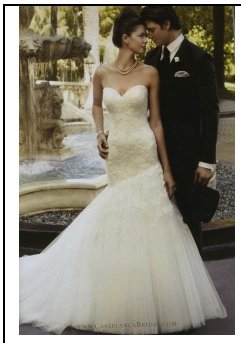
Signature

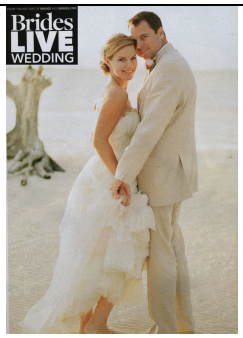
Writing your name on this page means that the page was read to you and that you agree to be in the study. If you have any questions before, after or during the study, ask the person in charge. If you decide to quit the study, all you have to do is tell me!

_____Signature of Participant Date

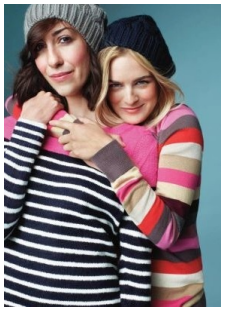
Appendix B

Explicitly Romantic



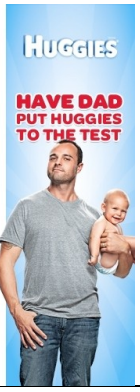


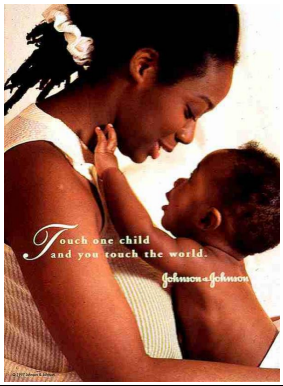
Implicitly Romantic



Familial

Parent-Infant





Appendix C

1: What is the ad selling? _____

2: How do these people know each other?_____

After response, ask each of these following (However, if the child provided specific answer (IE: mom, dad, brother, sister) this is not necessary.

You can guess" yes" or "no" for each. Are they:

A: friends with each other YES NO

B: in love with each other YES NO

C: married to each other YES NO

D: In the same family as each other YES NO

If child chooses d: How? Who are they?

3: How much do you like this ad?

Like a lot	Like a little	Just okay	Dislike a little	Dislike a lot

4: How much do you like the people in this ad?

Like a lot	Like a little	Just okay	Dislike a little	Dislike a lot

5: How much do you think **other** people like this ad?

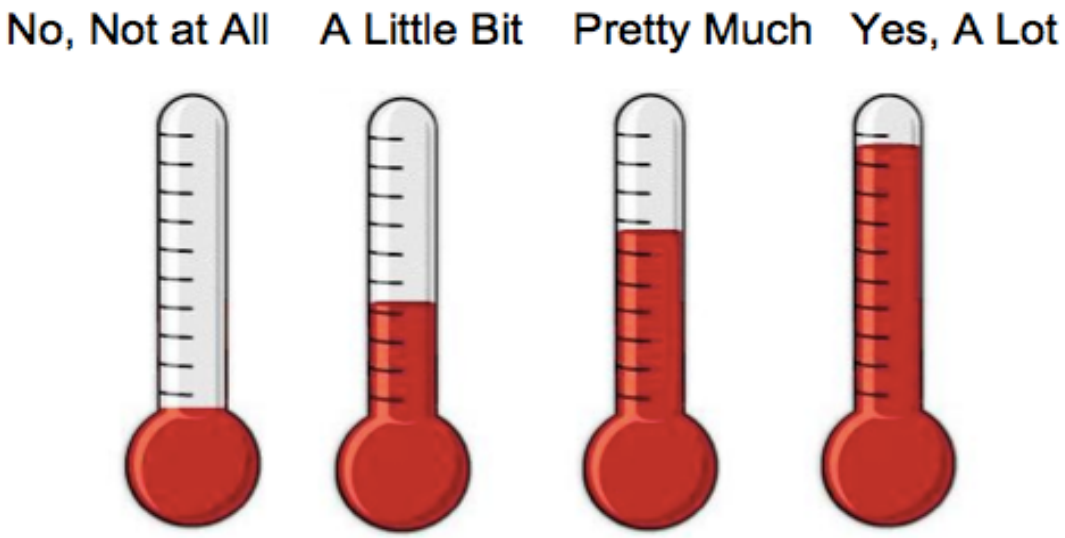
Like a lot	Like a little	Just okay	Dislike a little	Dislike a lo

6: Will this ad work to make people buy what the company is selling?

Yes, a lot	Yes a little bit	not sure	No, not very much	No, not at all

Appendix D

Like a lot **Like a little** **Just OK** **Dislike a little** **Dislike a lot**



Appendix E

WHO SHOULD DO THESE ACTIVITIES?

Here is a list of activities that people can do. We want you to tell us if you think each activity should be done by boys, by girls, or by both boys and girls. There are no right or wrong answers. We just want to you think should do these activities. If you think it should be done by only boys, circle 1; if you think it should be done by only boys, circle 2; if you think it should be done by both boys and girls, circle 3.

WHO SHOULD:	**Only Boys** **1**	**Only Girls** **2**	**Both Boys & Girls** **3**
1. fly a model plane	1	2	3
2. iron clothes	1	2	3
3. sew clothes	1	2	3
4. vacuum a house	1	2	3
5. go to the beach	1	2	3
6. go horseback riding	1	2	3
7. wash clothes	1	2	3
8. build with tools	1	2	3
9. play cards	1	2	3
10. shoot pool	1	2	3
11. set the table for dinner	1	2	3
12. fix bicycles	1	2	3
13. play darts	1	2	3
14. do gymnastics	1	2	3
15. play hide and seek	1	2	3
16. baby-sit	1	2	3
17. play video games	1	2	3
18. draw (or design) buildings	1	2	3
19. bake cookies	1	2	3
20. sketch (or design) clothes	1	2	3
21. grocery shop	1	2	3
22. draw (or design) cars/rockets	1	2	3
23. play basketball	1	2	3
24. build model airplanes	1	2	3

25. do crossword puzzles	1	2	3

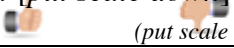
Appendix F

In this game we are going to talk about some things that you and I both know about. And then I'm going to ask you some questions about those things. Okay, let's see how this goes…

____Trial #	1- [*picture*]**Okay, so you know how <u>birthday cakes have candles</u>, right ? Birthday cakes have candles...** [*<u>picture away</u>*]
Ques. Order: _____	1-Here's a question: Do you think birthday cakes have always had candles, even way back when the first ever birthday cake was made? Have birthday cakes always had candles? *(circle)* Yes No Okay, now I have another question for you: Do you think birthday cakes *will* always have candles, even way into the future, when the very last birthday cake is made? Will birthday cakes always have candles? *(circle)* Yes No
_____	2-Now let me ask you this: Imagine if people wanted birthday cakes to *not* have candles, and *everyone* agreed that they wanted birthday cakes to *not* have candles. Would it be okay to make a change so that birthday cakes *don't* have candles, or would it not be okay? [*NO SCALE*] *(circle)* Okay Not okay [*if they say not okay, then ask*] *[SCALE-point]* Would it be <u>sort of not okay</u>, <u>not okay</u>, or <u>really not okay</u> to make a change so that birthday cakes *don't* have candles? *(circle)* 
_____	3-Okay, so I was talking to some friends about *why* <u>birthday cakes have candles</u>. Here are two reasons that my friends came up with. I wanted to know what you think of these reasons. ***[READ SLOWLY:]*** **Ok, so one person said that birthday cakes have candles *just because they are birthday cakes*. And birthday cakes *have to* have candles.** [*hold thumb scale to chest*] Is this person <u>right</u> [*point*] or <u>not right</u> [*point*] to think that birthday cakes have candles *just because* they're birthday cakes? [*put scale down*] *(circle)* *(put scale away)* [*if RIGHT*] Are they *a little* right, or are they *really* right? ❑ A little ❑ Really [*if NOT*] Are they *a little* not right or are they *really* not right? ❑ A little ❑ Really ***[READ SLOWLY:]*** **Ok, now another person had a *different* thought. This person said that birthday cakes have candles just because people thought**

	it might be a nice idea. But birthday cakes don't really *have to* have candles.[*hold thumb scale to chest*] Is this person <u>right</u> [*point*] or <u>not right</u> [*point*] to think that birthday cakes have candles *just because* people thought it might be a nice idea? [*put scale down*] *(circle)*   (put scale away) [*if RIGHT*] Are they *a little* right, or are they *really* right? ❑ A little ❑ Really  [*if NOT*] Are they *a little* not right or are they *really* not right? ❑ A little ❑ Really
_____	4- Now let's look at this picture [*show*]. This thing is called a candle, which is what is on birthday cakes. So what is this thing called? [*repeat or correct if needed*]. Ok, so a long time ago, people didn't have a name for this thing [*point to picture*]. They didn't have a name for it, and they wanted to come up with one. How did they do that? When people were first coming up with a name for this thing: Could they have called it something else, like "a diby" or "a peara" **OR,** did they *have* to call it "a candle"? If you think they could have called it something else, touch your chin [*touch chin*]. If you think they had to call it "a candle", touch your ear [*touch ear*]. *(circle)* Something else (chin) Had to (ear)

____Trial #	2- [*show picture*]**Okay, so you know how <u>school buses are *yellow*</u>, right? School buses are *yellow*...** [*<u>put picture away</u>*]
Ques. Order: _____	1-Here's a question: Do you think school buses have always been yellow, even way back when the first ever school bus was made? Have school buses always been yellow? *(circle)* Yes No Okay, now I have another question for you: Do you think school buses *will* always be yellow, even way into the future, when the very last school bus is made? Will school buses always be yellow? *(circle)* Yes No
_____	2-Now let me ask you this: Imagine if people wanted school buses to be a *different* color, and *everyone* agreed that they wanted school buses to be a *different* color. Would it be okay to make a change to the color of school buses, or would it not be okay? [*NO SCALE*] *(circle)* Okay Not okay [*if they say not okay, then ask*] *[SCALE-point]* Would it be <u>sort of not okay</u>, <u>not okay</u>, or <u>really not</u>

	okay to make a change to the color of school buses? *(circle)* 
_____	3-Okay, so I was talking to some friends about *why* school buses are yellow. Here are two reasons that my friends came up with. I wanted to know what you think of these reasons. ***[READ SLOWLY:]*** **Ok, so one person said that school buses are yellow *just because they are school buses*. And school buses *have to* be yellow.** [*hold thumb scale to chest*] Is this person right [*point*] or not right [*point*] to think that school buses are yellow *just because* they're school buses? [*put scale down*] *(circle)*  *(put scale away)* [*if RIGHT*] Are they *a little* right, or are they *really* right? ❑ A little ❑ Really [*if NOT*] Are they *a little* not right or are they *really* not right? ❑ A little ❑ Really ***[READ SLOWLY:]*** **Ok, now another person had a *different* thought. This person said that school buses are yellow just because people thought it might be a nice idea. But school buses don't really *have to* be yellow.**[*hold thumb scale to chest*] Is this person right [*point*] or not right [*point*] to think that school buses are yellow *just because* people thought it might be a nice idea? [*put scale down*] *(circle)*  (put scale away) [*if RIGHT*] Are they *a little* right, or are they *really* right? ❑ A little ❑ Really [*if NOT*] Are they *a little* not right or are they *really* not right? ❑ A little ❑ Really
_____	4- Now let's look at this picture [*show*]. This color is called yellow, which is the color of school buses. So what is this color called? [*repeat or correct if needed*]. Ok, so a long time ago, people didn't have a name for this color [*point to picture*]. They didn't have a name for it, and they wanted to come up with one. How did they do that? When people were first coming up with a name for this color: Could they have called it something else, like "lando" or "alam" **OR,** did they *have* to call it "yellow"? If you think they could have called it something else, touch your chin [*touch chin*]. If you think they had to call it "yellow", touch your ear [*touch ear*]. *(circle)* Something else (chin) Had to (ear)

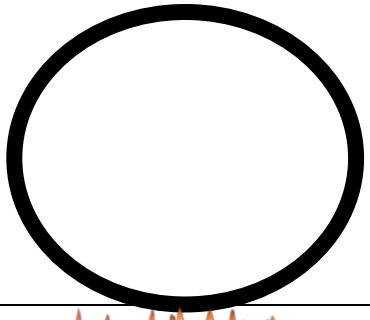
____Trial #	3- [*show picture*]**Okay, so you know how coins are round, right? Coins are round...** [*put picture away*]

<table>
<tr><td>Ques.
Order:

_____</td><td>1-Here's a question:
Do you think coins have always been round, even way back when the first ever coin was made? Have coins always been round? (circle)
Yes No
Okay, now I have another question for you:
Do you think coins will always be round, even way into the future, when the very last coin is made? Will coins always be round? (circle)
Yes No</td></tr>
<tr><td>_____</td><td>2-Now let me ask you this:
Imagine if people wanted coins to be a different shape, and everyone agreed that they wanted coins to be a different shape. Would it be okay to make a change so that coins are not round, or would it not be okay? [NO SCALE] (circle)
Okay Not okay
[if they say not okay, then ask]
[SCALE-point] Would it be <u>sort of not okay</u>, <u>not okay</u>, or <u>really not okay</u> to make a change to the shape of coins? (circle)
  </td></tr>
<tr><td>_____</td><td>3-Okay, so I was talking to some friends about why <u>coins are round</u>.
Here are two reasons that my friends came up with. I wanted to know what you think of these reasons.
[READ SLOWLY:] Ok, so one person said that coins are round just because they are coins. And coins have to be round. [hold thumb scale to chest]
Is this person <u>right</u> [point] or <u>not right</u> [point] to think that coins are round just because they're coins? [put scale   down] (circle)
(put scale away)
<table><tr><td>[if RIGHT] Are they a little right, or are they really right? ❑ A little ❑ Really</td><td>[if NOT] Are they a little not right or are they really not right? ❑ A little ❑ Really</td></tr></table>[READ SLOWLY:] Ok, now another person had a different thought. This person said that coins are round just because people thought it might be a nice idea. But coins don’t really have to be round.[hold thumb scale to chest]
Is this person <u>right</u> [point] or <u>not right</u> [point] to think that coins are round just because people thought it might be a nice idea? [put scale down] (circle)
  
(put scale away)
<table><tr><td>[if RIGHT] Are they a little right, or are they really right? ❑ A little ❑ Really</td><td>[if NOT] Are they a little not right or are they really not right? ❑ A little ❑ Really</td></tr></table></td></tr>
<tr><td></td><td>4- Now let's look at this picture [show]. This shape is called a circle,</td></tr>
</table>

_____	which is the shape of coins. So what is this shape called? [*repeat or correct if needed*]. Ok, so a long time ago, people didn't have a name for this shape [*point to picture*]. They didn't have a name for it, and they wanted to come up with one. How did they do that? When people were first coming up with a name for this shape: Could they have called it something else, like "a bicka" or "a ketta" **OR,** did they *have* to call it "a circle"? If you think they could have called it something else, touch your chin [*touch chin*]. If you think they had to call it "a circle", touch your ear [*touch ear*]. *(circle)* Something else (chin) Had to (ear)

Appendix F (continued)

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